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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/471,160	12/23/1999	SATOSHI KOKUBO	35.C14155	7094

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NEW YORK, NY 10112

EXAMINER

MARKHAM, WESLEY D

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/471,160	<b>Applicant(s)</b> KOKUBO ET AL.	
	<b>Examiner</b> Wesley D Markham	<b>Art Unit</b> 1762	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 4/30/04 (i.e., the RCE).
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4 and 6-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4 and 6-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

### **DETAILED ACTION**

#### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application on 4/30/2004 after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office Action (i.e., the Office Action mailed on 12/31/2003) has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/31/2004 has been entered.

#### ***Response to Amendment***

2. Acknowledgement is made of the amendment filed by the applicant on 3/31/2004, in which Claims 1, 2, 4, 6, and 8 were amended, and a marked-up copy of the substitute specification (clean copy filed on 10/6/2003) was submitted. Claims 1, 2, 4, and 6 – 8 are currently pending in U.S. Application Serial No. 09/471,160, and an Office Action on the merits follows.

#### ***Drawings***

3. The four (4) sheets of formal drawings filed by the applicant on 12/23/1999 are accepted by the examiner.

***Specification***

4. The substitute specification filed on 10/6/2003 has been entered, as the "marked-up" copy of the substitute specification was filed by the applicant on 3/31/2004.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1, 2, 4, and 6 – 8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
7. Specifically, independent **Claim 1** (from which **Claims 2, 4, 6, and 7** depend) and **Claim 8**, as amended, require that, "a coating liquid supply port for supplying the coating liquid and a rinsing liquid supply port for supplying the rinsing liquid are provided, and the coating liquid supply port and the rinsing liquid supply port are different". After reviewing the applicant's specification as a whole, as well as Figure 1, page 6, lines 3 – 11, and page 8, line 22 to page 9, line 1 (i.e., the portions of the disclosure cited by the applicant in support of the amendments to Claims 1 and 8), the examiner notes that there is no support, either explicit, implicit, or inherent, for

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the limitation that a coating liquid supply port for supplying the coating liquid and a rinsing liquid supply port for supplying the rinsing liquid are provided, and the coating liquid supply port and the rinsing liquid supply port are different. The examiner notes that, in the original disclosure, there is no discussion of the relative positions or locations of a "coating liquid supply port" and a "rinsing liquid supply port" – in fact, a rinsing liquid supply port, even in general terms, is not mentioned or discussed in the original disclosure. Further, it appears that both the rinsing liquid and coating liquid are supplied into the coating head at the same place (see page 8, line 22 to page 9, line 1, and page 10, lines 2 – 10, of the applicant's originally filed specification), and thus do not appear to be originally disclosed as having different "supply ports". Therefore, the claims contain subject matter (i.e., different rinsing liquid and coating liquid supply ports) which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1, 2, 4, and 6 – 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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10. Specifically, independent **Claim 1** (from which **Claims 2, 4, 6, and 7** depend) and **Claim 8**, as amended, require that, "a coating liquid supply port for supplying the coating liquid and a rinsing liquid supply port for supplying the rinsing liquid are provided, and the coating liquid supply port and the rinsing liquid supply port are different". However, the applicant's specification does not describe a coating liquid supply port and/or a rinsing liquid supply port, and the aforementioned terms do not appear to have an art-recognized definition. Therefore, it is unclear what embodiments are encompassed by the limitation that "a coating liquid supply port for supplying the coating liquid and a rinsing liquid supply port for supplying the rinsing liquid are provided". For example, where are the coating liquid and rinsing liquid supply ports located? (e.g., in the coating head, in the liquid supply lines, at the liquid tanks themselves?) Although the ports are clearly "for supplying the coating / rinsing liquid", from where and to where do the ports supply such liquid? Since it is unclear what is encompassed by the applicant's claims, the scope of the claims is vague, and the claims are indefinite under 35 U.S.C. 112, second paragraph.

### ***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1, 2, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Potjer et al. (USPN 5,851,566) for the reasons set forth in paragraph 6 of the previous Office Action (i.e., the final Office Action mailed on 12/31/2003) and below.
13. Potjer et al. teaches all the limitations of **Claims 1, 2, and 8** (see paragraph 6 of the previous Office action), including the newly added limitations in independent Claims 1 and 8 that (1) the coating head is connected to the coating liquid supply path, and (2) a coating liquid supply port for supplying the coating liquid and a rinsing liquid supply port for supplying the rinsing liquid are provided, and the coating liquid supply port and the rinsing liquid supply port are different. In this case, the "coating liquid supply path" is the path that travels from source "132" through valve "136" and into the coating head (see Figure 9). As such, the coating head is connected to the coating liquid supply path, as required by the claims. Additionally, the examiner has reasonably interpreted the section of the coating liquid supply path that passes through valve "136" and before the intersection with the rinsing liquid supply path to be a "coating liquid supply port", and the section of the rinsing liquid supply path that passes through valve "138" and before the intersection with the coating liquid supply path to be a "rinsing liquid supply port" (see Figure 9). As such, a coating liquid supply port for supplying the coating liquid and a rinsing liquid supply port for supplying the rinsing liquid are provided, and the coating liquid supply port and the rinsing liquid supply port are different, as required by the claims.

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 1, 2, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art (AAPA) in view of Asahi Glass Co (JP 10-282329 A) for the reasons set forth in paragraph 10 of the previous Office Action (i.e., the final Office Action mailed on 12/31/2003) and below.

17. The combination of the AAPA and Asahi Glass Co teaches all the limitations of **Claims 1, 2, 7, and 8** (see paragraph 10 of the previous Office Action), including the newly added limitations in independent Claims 1 and 8 that (1) the coating head is connected to the coating liquid supply path, and (2) a coating liquid supply port for



supplying the coating liquid and a rinsing liquid supply port for supplying the rinsing liquid are provided, and the coating liquid supply port and the rinsing liquid supply port are different. In this case, the coating liquid travels along a path from a coating source "2", through switching valve "4", to coating head "1" (see Figure 1), and the examiner has reasonably interpreted such a path to be the "coating liquid supply path". As such, the coating head is connected to the coating liquid supply path, as required by the claims. Additionally, the examiner has reasonably interpreted the section of the coating liquid supply path directly before the switching valve to be a "coating liquid supply port", and the section of the rinsing liquid supply path directly before the switching valve to be a "rinsing liquid supply port". As such, a coating liquid supply port for supplying the coating liquid and a rinsing liquid supply port for supplying the rinsing liquid are provided, and the coating liquid supply port and the rinsing liquid supply port are different, as required by the claims.

18. **Claims 2 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art (AAPA) in view of Asahi Glass Co (JP 10-282329 A), and in view of Poag et al. (USPN 5,958,517) for the reasons set forth in paragraph 17 above and paragraph 12 of the previous Office Action.

19. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwata et al. (USPN 5,817,441) in view of the combination of the applicant's admitted prior art

(AAPA) and Asahi Glass Co (JP 10-282329 A) for the reasons set forth in paragraph 17 above and paragraph 14 of the previous Office Action.

20. **Claims 6 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Potjer et al. (USPN 5,851,566) in view of Poag et al. (USPN 5,958,517) for the reasons set forth in paragraph 13 above and paragraph 16 of the previous Office Action.

21. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Potjer et al. (USPN 5,851,566) in view of the applicant's admitted prior art (AAPA) for the reasons set forth in paragraph 13 above and paragraph 19 of the previous Office Action.

22. Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oomori et al. (USPN 5,456,755) in view of Ide et al. (JP 09-141178 A).

23. Regarding independent **Claims 1 and 8**, Oomori et al. teaches a coating method of ejecting a coating liquid over the surface of a member to be coated from a spray gun "3a" (i.e., a coating head) and thus forming a coated layer thereon (Claim 1) / rinsing a spray gun "3a" (i.e., a coating head) having an opening for ejecting a coating liquid (Claim 8) (Figure 7, Col.2, lines 36 – 45, Col.3, lines 20 – 35, Col.4, lines 18 – 60, Col.9, lines 50 – 67, Col.10, lines 1 – 18), the method comprising the steps of stopping a supply of coating liquid from a coating liquid supply path (i.e., paths "14a"

– “14c” in Figure 7) to the coating head “3a” after ejecting the coating liquid, and rinsing an inside of the coating head “3a” by supplying a rinsing liquid from a rinsing liquid supply path (i.e., path “14d”, extending from cleaning fluid container “9a” to coating head “3a”) extending to the coating head, wherein the coating liquid supply path is different from the rinsing liquid supply path, and wherein the coating head is connected to the coating liquid supply path, a coating liquid supply port (e.g., the connection between coating liquid supply paths “14a”, “14b”, and “14c” and the spray gun “3a”) for supplying a coating liquid and a rinsing liquid supply port (e.g., the connection between rinsing liquid supply path “14d” and the spray gun “3a”) for supplying the rinsing liquid are provided, and the coating liquid supply port and the rinsing liquid supply port are different (Figure 7, Col.2, lines 36 – 45, Col.3, lines 20 – 35, Col.4, lines 18 – 60, Col.7, lines 58 – 67, Col.8, lines 1 – 33, Col.9, lines 1 – 12 and 50 – 67, Col.10, lines 1 – 18). Oomori et al. does not explicitly teach that the orifice in the spray gun “3a” (i.e., the coating liquid and rinsing liquid discharge opening whose inside is rinsed / cleaned) is a slit. Specifically, Oomori et al. is silent regarding the shape of the spray gun coating / cleaning liquid discharge opening(s). Ide et al. teaches that, in the art of spraying a treatment liquid onto a moving substrate surface, using a slit-shaped nozzle is advantageous because the liquid can be sprayed evenly to the entire width of the substrate, thereby providing an even surface treatment (Abstract). Therefore, it would have been obvious to one of ordinary skill in the art to utilize slit-shaped orifices in the spray gun “3a” (i.e., the coating head) of Oomori et al. with the reasonable expectation of successfully and

advantageously evenly spraying the entire substrate(s), thereby providing an even surface treatment.

24. Claims 2, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oomori et al. (USPN 5,456,755) in view of Ide et al. (JP 09-141178 A), in further view of Poag et al. (USPN 5,958,517).

25. The combination of Oomori et al. and Ide et al. teaches all the limitations of **Claims 2 and 6** as set forth above in paragraph 23, except for a method wherein the rinsing liquid is supplied trace by trace or intermittently to the coating head (Claim 2), or more specifically, a method wherein when the supply of the coating liquid is stopped, the rinsing liquid is supplied to the coating head periodically (Claim 6). Oomori et al. is silent as to whether the rinsing liquid is supplied periodically / intermittently or continuously during the time period(s) in which the supply of coating liquid is stopped. However, it is the purpose of the rinsing liquid of the Oomori et al. to clean the interior of the spray gun (Col.10, lines 7 – 17). Poag et al. teaches that, in the art of supplying a cleaning fluid to a coating liquid delivery orifice in order to prevent the coating liquid from contaminating the orifice (i.e., a cleaning process analogous to that taught by Oomori et al.) (Col.4, lines 42 – 60), it was known at the time of the applicant's invention to pulse the flow of cleaning fluid by opening and closing the cleaning fluid valve (i.e., to periodically supply the rinsing liquid) to provide cleaning agitation and facilitate the cleaning of surfaces (Col.6, lines 51 – 54). Therefore, it would have been obvious to one of ordinary skill in the art to periodically supply (i.e.,

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pulse) the rinsing liquid of the combination of the Oomori et al. and Ide et al. to the coating head when the supply of coating liquid is stopped with the reasonable expectation of successfully and advantageously improving the cleaning efficiency of the rinsing process.

26. The combination of Oomori et al. and Ide et al. teaches all the limitations of **Claim 7** as set forth above in paragraph 23, except for a method wherein the rinsing liquid (i.e., the cleaning liquid) is a solvent of the coating liquid (i.e., the thinned paint taught by Oomori et al.). Specifically, Oomori et al. is silent as to the nature of the cleaning liquid / fluid. However, Poag et al. teaches that, in the art of supplying a cleaning fluid to a coating liquid delivery orifice in order to clean the orifice (i.e., a cleaning process analogous to that taught by Oomori et al.) (Col.4, lines 42 – 60), it was known at the time of the applicant's invention to utilize a solvent of the coating liquid as the cleaning fluid (Col.1, lines 45 – 46, Col.2, lines 2 – 5, and Col.4, lines 50 – 60). It would have been obvious to one of ordinary skill in the art to utilize a solvent of the coating liquid of Oomori et al. (e.g., the solvent used to thin the paint coating(s) – Col.8, lines 1 – 12, and Col.9, lines 1 – 11 of Oomori et al.) as the cleaning liquid in Oomori et al. with the reasonable expectation of (1) success, as Poag et al. teaches that such a process can be successfully performed, and (2) obtaining the benefits of using a solvent of the coating liquid as the cleaning liquid, such as the ability to dissolve any dry or solidified coating material / paint present at the coating head. This benefit is clearly applicable to the coating / cleaning process

of Oomori et al. and would have been readily recognized by one of ordinary skill in the art.

### ***Response to Arguments***

Applicant's arguments filed on 3/31/2004 have been fully considered but they are not persuasive.

The applicant argues that, in Potjer et al., the rinsing liquid and coating liquid share common supply lines to inlet orifices 69 and 70, and thus it cannot be said that a coating liquid supply port and a rinsing liquid supply port are provided and are different. In response and as set forth above in paragraph 13, the examiner has reasonably interpreted the section of the coating liquid supply path that passes through valve "136" and before the intersection with the rinsing liquid supply path to be a "coating liquid supply port", and the section of the rinsing liquid supply path that passes through valve "138" and before the intersection with the coating liquid supply path to be a "rinsing liquid supply port" (see Figure 9 of Potjer et al.). As such, a coating liquid supply port for supplying the coating liquid and a rinsing liquid supply port for supplying the rinsing liquid are provided, and the coating liquid supply port and the rinsing liquid supply port are different, as required by the claims.

The applicant also argues that, in Asahi Glass Co, it appears that the ink and the washing fluid are supplied through a common line to the ink-jet head, and thus do not utilize different supply ports. In response and as set forth above in paragraph 17, the examiner has reasonably interpreted the section of the coating liquid supply path

directly before the switching valve to be a "coating liquid supply port", and the section of the rinsing liquid supply path directly before the switching valve to be a "rinsing liquid supply port". As such, a coating liquid supply port for supplying the coating liquid and a rinsing liquid supply port for supplying the rinsing liquid are provided, and the coating liquid supply port and the rinsing liquid supply port are different, as required by the claims.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Abe et al. (USPN 5,575,851) teaches a die coater in which cleaning solvent and coating fluid are separately introduced (see Figure 11 and the corresponding description). Fujino (JP 06-277599 A) teaches a die coater with a washing function in which washing liquid is supplied directly to the coating head.

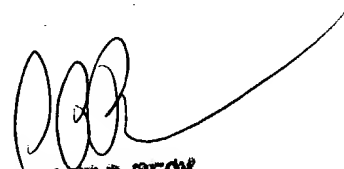
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley D Markham whose telephone number is (571) 272-1422. The examiner can normally be reached on Monday - Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
WDM

Wesley D Markham  
Examiner  
Art Unit 1762

  
**SHIVE P. DECK**  
**SUPERVISORY PATENT EXAMINER**  
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